

Overt Gastrointestinal Bleeding Secondary to Nonsteroidal Anti-Inflammatory Drug-Induced Jejunal Diverticular Ulcer

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CASE REPORT

A 72-year-old woman with hypertension, hyperlipidemia, type 2 diabetes mellitus, and chronic back pain was admitted for 3 episodes of large-volume, maroon-colored stools with blood clots. She denied fever, chills, dizziness, shortness of breath, chest pain, palpitations, abdominal pain, nausea, and vomiting. Her past surgical history included cholecystectomy, abdominal hysterectomy, and hernia repair. There was no previous history of gastrointestinal (GI) bleeding. She had been taking ibuprofen chronically for back pain. On presentation, blood pressure was 130/59 mm Hg and heart rate was 81 beats/min without orthostatic changes. Abdominal examination did not reveal any tenderness or organomegaly. Initial laboratory tests revealed hemoglobin 8.1 g/dL, platelet count $254 \times 10^9/L$, serum blood urea nitrogen (BUN) 21 mg/dL, and serum creatinine 1.2 mg/dL; other laboratory values were within normal limits. Her baseline hemoglobin, serum BUN, and creatinine the prior month were 8.1 g/dL, 17 mg/dL, and 1.1 mg/dL, respectively.

Upper endoscopy was normal, and colonoscopy showed a few scattered diverticula with old blood throughout the colon, but no stigmata of recent bleeding. A capsule endoscopy was placed with good visualization of the entire small bowel, which did not show any blood or reveal the etiology of the bleeding. A nuclear bleeding scan and computed tomography (CT) angiogram failed to detect the site of the bleeding. She continued to pass daily maroon-colored stools requiring a total of 20 units of blood. A double balloon enteroscopy was planned, but on the sixth hospital day, the patient developed a large bloody bowel movement, and her blood pressure dropped to 60/40 mm Hg. Repeat CT angiogram localized an active extravasation in the proximal jejunum. Interventional radiology embolized the superior mesenteric artery.

Post-procedure, the patient developed severe abdominal pain with serum lactate 10 mmol/L. She was transferred to an operating room for possible mesenteric ischemia. Intraoperative examination of the bowel revealed blood-filled small and large bowels. Further exploration revealed 2 proximal jejunal diverticula, correlating to the area of bleeding seen on CT scan (Figure 1). The area of bowel was resected with side-to-side anastomosis. A circumferential area of hemorrhagic mucosa 2 cm in length was identified (Figure 2). Microscopic examination revealed an ulcerated diverticulum (Figure 3). There was no evidence of diverticulitis. The bleeding stopped, and the patient's hemoglobin improved to 9.7 g/dL. She was discharged home 4 days post-surgery.

Jejunal diverticula are rare, with a prevalence rate of 0.3–4.6% on autopsy studies and 0.5–2.3% on radiologic studies.¹ It is a clinically silent disease, but complications may include perforation, bleeding, diverticulitis, or intestinal obstruction. A bleeding ulcer in a jejunal diverticulum secondary to non-steroidal anti-inflammatory drug (NSAID) use is considered rare. Most NSAID-induced ulcers are observed in the ileum rather than the jejunum. They can also be found in the small bowel, even without the presence of ulcers or erosions in the stomach or colon.² These NSAID-induced ulcers can present with acute massive lower GI bleeding similar to bleeding diverticula of the colon, as in our case.

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Figure 1. Intraoperative finding showed 2 proximal jejunal diverticuli that correlate to the area of bleeding seen on computed tomography.

NSAID-induced bleeding diverticula can present as overt obscure GI bleeding, which presents a diagnostic challenge. Current guidelines recommend video-capsule endoscopy as the first-line procedure to evaluate the small bowel, after upper and lower GI sources have been excluded.³ In 1 study, video-capsule endoscopy demonstrated superior diagnostic yield over CT angiography, although capsule endoscopy did miss a small number of cases that were correctly identified by CT angiography.⁴ This suggests that combined use of capsule endoscopy and CT angiography may improve the diagnostic yield in patients with obscure GI bleeding.

Presently, there are no therapies designed specifically for the prevention of NSAID-induced enteropathy. The role of proton-pump inhibitors is limited, unlike in the case of gastroduodenal ulcers.⁵ In general, treatment for bleeding jejunal



Figure 2. Open section of the small bowel showing a circumferential area of hemorrhagic mucosa 2 cm in length in the diverticulum.

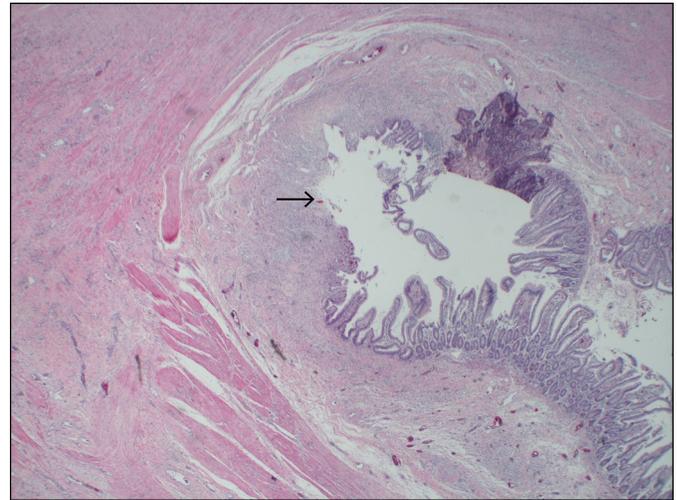


Figure 3. Microscopic finding showing ulcerated lining of the diverticulum epithelium.

diverticula is directed at identifying the etiology of the bleeding. With the introduction of device-assisted enteroscopy, diverticular bleeding with visible vessels is controlled by placing a hemoclip,^{1,6} or through argon plasma coagulation if the etiology of the bleeding is due to an angioectasia.⁷ Endoscopic band ligation has also been found to be safe and effective in achieving hemostasis of bleeding lesions in the small bowel.⁸ Surgical management is reserved for patients with refractory GI bleeding and for complicated jejunal diverticula leading to bowel perforation, fistula, or abscess.

DISCLOSURES

Author contributions: All authors contributed equally to the creation of this manuscript. AM Sy is the article guarantor.

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